

Curriculum Content Framework

MANAGING OUR NATURAL RESOURCES

Grade Level: 10,11,12
CIP Code: 03.0201

Semester

Prerequisites: None
Course Code: 01.231

Course Description: Students will explore natural resources (soil, water, air, forests, energy, minerals and metal, and wildlife) and develop the knowledge and skills to use them wisely. Other issues include outdoor recreation, careers, and environmental issues.

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Unit 1: Introduction to Natural Resources

VOCATIONAL AND TECHNICAL SKILLS What The Student Should Be Able To Do		ACADEMIC AND WORKPLACE SKILLS What The Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
1.1 (define) Natural Resource		Foundation	Reading	Uses written resources (books, dictionaries, directories) to obtain factual information [1.3.23]
		Thinking	Knowing How to Learn	Considers risks when making a decision [4.2.3]
1.2 (list) Ways natural resources affect our daily lives		Foundation	Writing	Analyzes data, summarizes results, and makes conclusions [1.6.2]
		Thinking	Reasoning	Sees relationship between two or more ideas, objects, or situations [4.5.5]
1.3 (compare) Availability of natural resources now to that of a century ago	1.3.1 Interview people in your school or community to determine concerns related to natural resources.	Foundation	Speaking	Communicates a thought, idea, or fact in spoken form [1.5.5]
		Interpersonal	Teamwork	Contributes to group with ideas, suggestions, and effort [2.6.2]
1.4 (identify) Careers in natural resources	1.4.1 Research a career in natural resources to determine educational requirements, working conditions, and salary.	Foundation	Reading	Applies information to job performance [1.3.4]; uses standard occupational resource materials [1.3.22]
		Personal Management	Career Awareness, Development, and Mobility	Develops skills to locate, evaluate, and interpret career information [3.1.4]; explores career opportunities [3.1.6]
1.5 (discuss) FFA opportunities available to students interested in natural resources		Foundation	Listening	Listens for content [1.2.3]; listens for emotional meaning [1.2.5]
		Personal Management	Career Awareness, Development, and Mobility	Identifies education and training needed to achieve goals [3.1.8]

Unit 2: Soil Management

VOCATIONAL AND TECHNICAL SKILLS What The Student Should Be Able To Do		ACADEMIC AND WORKPLACE SKILLS What The Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
2.1 (define) Soil and Soil Erosion		Foundation	Writing	Uses words appropriately [1.6.21]
		Thinking	Seeing Things in the Mind's Eye	Organizes and processes images -- symbols, pictures, graphs, objects, etc. [4.6.2]
2.2 (list) The components of soil		Foundation	Science	Describes/Explains scientific principles related to soil [1.4.14]
		Personal Management	Responsibility	Maintains a high level of concentration in completion of a task [3.4.7]
2.3 (differentiate) Between farm and nonfarm erosion	2.3.1 Identify examples of erosion in the local area.	Foundation	Speaking	Asks questions to clarify information [1.5.3]
		Thinking	Reasoning	Uses logic to draw conclusions from available information [4.5.6]
2.4 (explain) Methods used in controlling erosion		Foundation	Reading	Determines what information is needed [1.3.10]
		Thinking	Reasoning	Sees relationship between two or more ideas, objects, or situations [4.5.5]
2.5 (discuss) Considerations in planning for land use		Foundation	Reading	Distinguishes between fact and opinion [1.3.11]
		Thinking	Decision Making	Evaluates information/data to make best decision [4.2.5]

Unit 3: Water Management

VOCATIONAL AND TECHNICAL SKILLS What The Student Should Be Able To Do		ACADEMIC AND WORKPLACE SKILLS What The Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
3.1 (identify) Sources of water		Foundation Thinking	Science Seeing Things in the Mind's Eye	Acquires and processes scientific data [1.4.1] Organizes and processes images -- symbols, pictures, graphs, objects, etc. [4.6.2]
3.2 (determine) The impact of industrial use on water supplies	3.2.1 Invite a representative from a local plant to discuss their water use and the environmental regulations which they must follow.	Foundation Personal Management	Listening Integrity/ Honesty/ Work Ethic	Listens for content [1.2.3]; listens for emotional meaning [1.2.5] Follows established rules, regulations, and policies [3.2.5]
3.3 (list) Sources of water pollution		Foundation Thinking	Reading Knowing How to Learn	Determines what information is needed [1.3.10] Uses available resources to acquire new skills or improve skills [4.3.4]
3.4 (discuss) The procedure for treating waste water for re-use	3.4.1 Tour a waste water treatment plant to observe the procedures used.	Foundation Personal Management	Science Integrity/ Honesty/ Work Ethic	Chooses appropriately from a variety of scientific methods and techniques to complete a task [1.4.9] Complies with safety and health rules in a given work environment [3.2.2]
3.5 (explain) The importance of planning for future water needs		Foundation Thinking	Writing Creative Thinking	Organizes information into an appropriate format [1.6.10] Makes connections between seemingly unrelated ideas [4.1.6]

Unit 4: Energy Resources

VOCATIONAL AND TECHNICAL SKILLS What The Student Should Be Able To Do		ACADEMIC AND WORKPLACE SKILLS What The Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
4.1 (compare) The use of energy resources in the United States to that in other countries		Foundation Thinking	Reading Decision Making	Comprehends written information and applies it to a task [1.3.8] Evaluates information/data to make best decision [4.2.5]
4.2 (identify) Sources of energy	4.2.1 Research one of the following energy sources and present a group report to the class: -- coal -- oil and gas -- nuclear energy -- alternative (solar, geothermal, etc.).	Foundation Thinking	Science Reading Reasoning	Describes/Explains scientific principles related to energy [1.4.14] Uses written resources (books, dictionaries, directories) to obtain factual information [1.3.23] Uses logic to draw conclusions from available information [4.5.6]
4.3 (discuss) Concerns related to the use of fossil fuels		Foundation Personal Management	Science Responsibility	Acquires and processes scientific data [1.4.1] Exerts a high level of effort and perseverance towards goal attainment [3.4.4]
4.4 (list) Ways to conserve energy		Foundation Interpersonal	Writing Teamwork	Uses words appropriately [1.6.21] Contributes to group with ideas, suggestions, and effort [2.6.2]

Unit 5: Mineral and Metal Resources

VOCATIONAL AND TECHNICAL SKILLS What The Student Should Be Able To Do		ACADEMIC AND WORKPLACE SKILLS What The Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
5.1 (define) Mineral and Metal		Foundation	Reading	Uses written resources (books, dictionaries, directories) to obtain factual information [1.3.23]
			Writing	Uses words appropriately [1.6.21]
5.2 (identify) Uses of various minerals		Foundation	Reading	Distinguishes between fact and opinion [1.3.11]
		Personal Management	Responsibility	Exerts a high level of effort and perseverance towards goal attainment [3.4.4]
5.3 (explain) Procedures for securing minerals and metals from their natural state		Foundation	Reading	Determines what information is needed [1.3.10]
		Thinking	Knowing How to Learn	Uses available resources to acquire new skills or improve skills [4.3.4]
5.4 (compare) The availability and management concerns of non-fuel minerals and metals to those of fossil fuels		Foundation	Speaking	Applies/Uses technical terms as appropriate to audience [1.5.2]
		Thinking	Reasoning	Determines which conclusions are correct when given a set of facts and a set of conclusions [4.5.3]

Unit 6: Forestry Management

VOCATIONAL AND TECHNICAL SKILLS What The Student Should Be Able To Do		ACADEMIC AND WORKPLACE SKILLS What The Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
6.1 (define) Forestry	6.1.1 List one hundred products obtained from forest resources.	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
		Interpersonal	Teamwork	Works effectively with others to reach a common goal [2.6.6]
6.2 (determine) The percentage of land in Arkansas that is forest		Foundation	Arithmetic/ Mathematics	Calculates percentages, ratios, proportions, decimals, and common fractions [1.1.10]
		Thinking	Knowing How to Learn	Processes new information as related to workplace [4.3.5]
6.3 (list) Considerations in managing forests		Foundation	Speaking	Organizes ideas and communicates oral messages to listeners [1.5.7]
		Personal Management	Responsibility	Exhibits enthusiasm in approaching and completing tasks [3.4.3]
6.4 (identify) Problems related to forest management		Foundation	Reading	Applies information to job performance [1.3.4]
		Thinking	Reasoning	Sees relationship between two or more ideas, objects, or situations [4.5.5]
6.5 (discuss) The damage caused each year from forest fires in the United States		Foundation	Writing	Communicates thoughts, ideas, or facts in written form in a clear, concise manner [1.6.6]
		Thinking	Seeing Things in the Mind's Eye	Organizes and processes images -- symbols, pictures, graphs, objects, etc. [4.6.2]
6.6 (identify) Environmental concerns associated with forestry		Foundation	Science	Analyzes environmental issues (ecology, pollution, waste management [1.4.2]
		Interpersonal	Negotiation	Works to resolve conflict between two or more individuals [2.5.3]

Unit 7: Fish and Wildlife

VOCATIONAL AND TECHNICAL SKILLS What The Student Should Be Able To Do		ACADEMIC AND WORKPLACE SKILLS What The Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
7.1 (identify) Species of fish and wildlife found in Arkansas		Foundation Thinking	Science Knowing How to Learn	Acquires and processes scientific data [1.4.1] Organizes and processes images -- symbols, pictures, graphs, objects, etc. [4.6.2]
7.2 (compare) The populations of various species now to those of one hundred years ago		Foundation Thinking	Reading Reasoning	Uses graphs/charts/tables to obtain factual information [1.3.21] Comprehends ideas and concepts related to changes in populations [4.5.2]
7.3 (explain) How hunting can be beneficial to some wildlife populations	7.3.1 Complete a Hunter Safety Course.	Foundation Personal Management	Speaking Integrity/ Honesty/ Work Ethic	Interprets nonverbal cues such as eye contact, posture, and gestures for meaning [1.5.6] Follows established rules, regulations, and policies [3.2.5]
7.4 (differentiate) Between marine and freshwater fish management		Foundation Personal Management	Reading Responsibility	Identifies relevant details, facts, and specifications [1.3.16] Pays close attention to details [3.4.8]

Unit 8: Planning for the Future

VOCATIONAL AND TECHNICAL SKILLS What The Student Should Be Able To Do		ACADEMIC AND WORKPLACE SKILLS What The Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
8.1 (identify) Concerns about the future availability of natural resources		Foundation	Reading	Analyzes and applies what has been read to specific task [1.3.2]
		Thinking	Seeing Things in the Mind's Eye	Organizes and processes images -- symbols, pictures, graphs, objects, etc. [4.6.2]
8.2 (explain) How recycling can be better used to conserve natural resources		Foundation	Science	Applies a scientific principle to solve a problem [1.4.8]
		Personal Management	Responsibility	Sets high standards for self in completion of a task [3.4.9]
8.3 (discuss) Current issues regarding the use of natural resources	8.3.1 Debate issues regarding the use of natural resources, using the class as a forum.	Foundation	Speaking	Uses verbal language and other cues such as body language appropriate in style, tone, and level of complexity to the audience and the occasion [1.5.14]
		Interpersonal	Leadership	Helps an individual or group challenge existing procedures, policies, or authority [2.4.7]
8.4 (explain) The role of the Environmental Protection Agency and other government agencies in planning for natural resource management		Foundation	Science	Analyzes environmental issues (ecology, pollution, waste management) [1.4.2]
		Thinking	Reasoning	Determines which conclusions are correct when given a set of facts and a set of conclusions [4.5.3]
8.5 (determine) Ways students can be involved in planning for natural resource management	8.5.1 Develop a recycling program for your community.	Foundation	Speaking	Communicates a thought, idea, or fact in spoken form [1.5.5]
		Interpersonal	Teamwork	Takes an interest in what others say and do [2.6.5]